TERRESTRIAL SPECIAL-STATUS SPECIES ASSESSMENT STUDY PLAN

REVISED STUDY PLAN (version 2.0)
TOLEDO BEND RELICENSING PROJECT
FERC PROJECT NO. 2305

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1.0 INTRODUCTION

1.1 General Description of the Toledo Bend Project

The Sabine River Authority of Texas (SRA-TX) and the Sabine River Authority, State of Louisiana (SRA-LA) (collectively, the Authorities) collaborated to develop the Toledo Bend Project (Project) located on the Sabine River. Construction was completed in October 1966. The Project is jointly operated by SRA-TX and SRA-LA through Toledo Bend Project Joint Operations (TBPJO).

The Project was originally planned, licensed, and constructed as a water supply facility, but it also provides multiple uses, such as hydroelectric power generation and recreation. The Project is located approximately 156.5 miles upstream of the confluence of the Sabine River and the Gulf of Mexico. Both the Project and this reach of the river serve as the border between the states of Louisiana and Texas.

The Project reservoir (which is oriented in a southeast to northwest direction), is approximately 85 miles in length. The Project extends approximately 132 river miles (RM) (channel miles) from Toledo Bend Dam, which is located at RM 147,1 upstream to above Logansport, Louisiana (i.e., Murvaul Bayou), located at RM 279. The Project occupies lands and waters within Panola, Shelby, Sabine, and Newton counties in Texas and De Soto, Sabine, and Vernon parishes in Louisiana. Toledo Bend Reservoir is the largest manmade body of water in the southern United States and the fifth largest in surface area in the country.

The reservoir has approximately 1,200 miles of shoreline with a water surface area of 185,000 acres at the normal maximum reservoir elevation of 172.0 feet mean sea level (msl). The Toledo Bend Reservoir is 7 miles at its widest point and contains a storage volume of 4,477,000 acre-feet between elevations 162 feet and 172 feet. Primary hydroelectric generation occurs between 168 and 172 feet. The watershed above Toledo Bend Dam is approximately 7,178 square miles

[1] River Miles (RM) are measured along the river starting at the confluence of Sabine Lake and the Sabine River.

with an estimated runoff in 2004 of 3.6 million acre-feet (SRA 2008). Over its history, water levels have ranged from a low of 161.3 feet to a high of 173.9 feet.

As currently licensed, the principal Project works consist of:

- A rolled earth-fill dam with a maximum height of 112 feet and a length of 11,250 feet (including saddle dikes);
- A reservoir with a surface area of 185,000 acres and 1,200 miles of shoreline with an active storage capacity of 4,477,000 acre-feet;
- A concrete gravity spillway located on the left abutment (in Louisiana) with a gated ogee section and a concrete chute and stilling basin. The spillway has a maximum length of 838 feet with eleven 40-foot by 28-foot Tainter gates. The top of the gates is at elevation 173 feet and top of the spillway ogee is at elevation 145 feet. A continuous flow of 144 cubic feet per second (cfs) is provided at the spillway;
- A powerhouse located at the right abutment (in Texas) containing two 58,500 horsepower (43.875-MW) vertical Kaplan turbines with direct drive generators, a tailrace channel, and appurtenant electrical and mechanical facilities.

1.2 Relicensing Process

The current Toledo Bend license extends to September 30, 2013. The Authorities intend to relicense the Project using the Integrated Licensing Process (ILP) as promulgated by Federal Energy Regulatory Commission (FERC) regulations issued July 23, 2003 (18 CFR Part 5). Pursuant to FERC's ILP regulations, the Authorities filed their Pre-Application Document (PAD) and Notice of Intent (NOI) with FERC on September 22, 2008.

Following the Authorities' filing of the PAD and NOI, FERC issued Scoping Document 1 (SD1) on November 21, 2008, and convened scoping meetings and a site tour for agencies and members of the public on December 16 – 17, 2008. Based on the information in the PAD and SD1, as well as information exchanged in the scoping meetings, agencies and Stakeholders had until January 21, 2009 to submit comments and study requests. The Authorities received comments and study requests from six resource agencies, one non-governmental organization, and FERC Staff. In total, these commenter's recommended forty-four studies, including two

studies related to terrestrial species. The Authorities then carefully reviewed these recommended studies, and developed the proposed Terrestrial Special-Status Species Study Plan, which was filed with the FERC on March 9 2009.

On March 25, 2009, the Authorities held the required Proposed Study Plan Meeting with the agencies and stakeholders. Based on the comments and recommendations from this meeting, the Authorities prepared an updated Proposed Study Plan that was distributed to the stakeholders for review and comment on May 27, 2009. The stakeholders and FERC Staff then filed their comments on the updated Proposed Study Plan comments with the FERC on June 8, 2009. After careful review of comments at the stakeholder meeting and comments on the Proposed Study Plan, the Authorities have developed this Revised Study Plan for FERC review and approval.

2.0 GOALS AND OBJECTIVES

The goal of this study is to evaluate the effects of continued Project operation and maintenance and other related activities on federally threatened, endangered, or candidate species and associated critical habitat; state-listed or sensitive species; U.S. Forest Service (USFS) sensitive species' and other rare species (collectively known as "special-status species") in the Project area. The objectives of the overall study are to:

(1) Identify, describe, and map, using available information, the location of special-status species and their habitat in relationship to the location of Project facilities and identify impacts resulting from Project operations and maintenance (O&M) activities.

(2) Identify the need for field surveys of special-status species or habitat assessments where Project effects are established.

(3) Identify Project-related actions that may influence the distribution of special-status species or their habitat.

(4) Identify measures that may be taken to protect, mitigate, or enhance special-status species or their habitat.

3.0 STUDY AREA

The study area for the Terrestrial Special-Status Species Assessment will include all lands within the FERC Project Boundary and those lands affected by Project O&M activities. In general, the Project Boundary encompasses all lands that are necessary for Project purposes.

4.0 BACKGROUND AND EXISTING INFORMATION

4.1 Resource Discussion

Information on wildlife and botanical resources in the PAD includes:

- A table summarizing the special-status species that may occur in the Project vicinity, their federal and state status, and a brief description of habitat requirements
- Management plans affecting botanical and wildlife resources

The major land resource areas offer diverse wildlife and botanical habitats. Rare, threatened, and endangered (RTE) plant and wildlife species that may occur in habitats within the Project vicinity were identified using existing information. Based on existing lists of RTE botanical and wildlife species and known species distributions and habitat requirements, several state or federally listed RTE species potentially occur in terrestrial habitats within the Project vicinity. The Table 1 below lists special status species (i.e., state and federal listed and Regional Forester's sensitive species) that have been documented or could potentially occur within the Toledo Bend area.

TABLE 1
SPECIAL STATUS SPECIES

Common Name	Scientific Name	State Listed/ Status	Federal	Habitat Requirements
State and Federal Listed Species				
Rafinesque's Big-eared Bat	*Corynorhinus rafinesquii*	TX/T	--	Roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned manmade structures. Potentially breeds in the lower Sabine River bottomlands.
Black Bear	*Ursus americanus*	TX/T	T(S/A)	Bottomland hardwoods and large tracts of inaccessible forested areas. Due to field characteristics similar to Louisiana Black Bear, treat all east Texas Black Bears as Federal and State Listed Threatened.
Louisiana Black Bear	*Ursus americanus luteolus*	TX/T	LT	Bottomland hardwoods and large tracts of inaccessible forested areas. Transitory individuals been recently documented (1977-2008) in the Project area including Newton, Shelby, and Panola counties (TPWD 2008).
Piping Plover	*Charadrius melodus*	TX/T	LT	Wintering migrant along beaches and mud or salt flats.
American Swallow-tailed Kite	*Elanoides forficatus*	TX/T	--	Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds. Nests high in tall trees in clearing in or on forest woodland edge, usually in pine, cypress, or various deciduous trees. Likely nests in the bottomland hardwood forests along the lower Sabine River (several individuals observed along the lower Sabine River during the summer of 2008).
Peregrine Falcon	*Falco peregrinus*	TX/E-T	DL	Nests in tall cliff eyries. Occupies a wide range of habitats during migration, including urban, coasts and barrier islands. Transitory through the Project area during migration.
American Peregrine Falcon	*Falco peregrinus anatum*	TX/E	DL	Nests in tall cliff eyries. Occupies a wide range of habitats during migration, including urban, coasts and barrier islands. Transitory through the Project area during migration.

Arctic Peregrine Falcon	*Falco peregrinus tundrius*	TX/T	DL	Occupies a wide range of habitats during migration, including urban, coasts and barrier islands. Transitory through the Project area during migration.
Bald Eagle	*Haliaeetus leucocephalus*	LA/E; TX/T	DL	Found primarily near rivers and large lakes, nests in tall trees or on cliffs near water. Several known and active nests are located adjacent to Toledo Bend Reservoir.
Wood Stork	*Mycteria americana*	TX/T	--	Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water. Usually roosts communally in tall snags. No breeding records since 1960 in Texas.
Red-cockaded Woodpecker	*Picoides borealis*	LA/E	LE	Cavity nester in older pines (60+yrs). Prefers longleaf, shortleaf and loblolly pines. The species is currently documented in the Longleaf Pine communities within the Sabine National Forest adjacent to the Project. No colonies are located within the Project Boundary.
White-faced Ibis	*Plegadis chihi*	TX/T	--	Freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats. Nests in marshes.
Interior Least Tern	*Sterna antillarum athalassos*	TX/E	LE	Nests along gravel bars within braided streams and rivers. May travel through the Project area during migration.
Pig Frog	*Rana grylio*	TX/SOC	--	Lakes, ponds, streams, swamps, and marshes with abundant emergent vegetation.
Eastern Tiger Salamander	*Ambystoma tigrinum*	LA/ Prohibited	PS	Found in virtually any habitat, providing there is a terrestrial substrate suitable for burrowing and a body of water nearby suitable for breeding. Terrestrial adults usually are underground, in self-made burrows or in those made by rodents, shrews, or other animals. Breeds in a wide range of environments. Breeds usually in sites where predatory fishes are absent. In the southeastern U.S., requires ponds that do not contain fishes.
Gulf Saltmarsh Snake	*Nerodia clarkia*	TX/SOC	--	Estuarine, coastal salt marshes.

Louisiana Pine Snake	*Pituophis ruthveni*	TX/T	C	Habitat consists of longleaf pine savannah with sandy, well-drained soils and substantial herbaceous ground cover. Recent records of this snake are primarily from isolated patches of habitat where the influence of fire has been most effective in maintaining well-developed herbaceous understory conditions. In Texas, these snakes occur in Longleaf Pine-oak sandhills interspersed with moist bottomlands; sometimes in adjacent blackjack oak woodlands and in sandy areas of short-leaf pine/post oak forest; the snake prefers openly wooded areas to dense forest; it is frequently found in fields, farmland, and tracts of second-growth timber. Documented in the Longleaf Pine communities within the Sabine National Forest.
Alligator Snapping Turtle	*Macroclemys temminckii*	LA/ Restricted Harvest; TX/T	--	Slow moving, deep water of rivers, sloughs, oxbows, and canals or lakes associated with rivers (e.g., impoundments); also swamps, bayous, and ponds near rivers, and shallow creeks that are tributary to occupied rivers. Sometimes enters brackish waters near river mouths. Usually occurs in water with mud bottom and some aquatic vegetation but may use sand-bottomed creeks. Highly aquatic; rarely out of water (except during nesting).
Northern Scarlet Snake	*Cemophora coccinea copei*	TX/T	--	Commonly found in pine flatwoods, dry prairies, hardwood hammocks, and sandhills.
Timber/Canebrake Rattlesnake	*Crotalus horridus*	TX/T	--	Hardwood forests of the type found in Loess Bluff and in many river bottoms, swampy areas and floodplains, wet pine flatwoods, river bottoms and hydric hammocks, and hardwood forests and cane fields of alluvial plain and hill country. Hibernacula are typically located in a rocky area where underground crevices provide retreats for overwintering.
Texas Emerald Dragonfly	*Somatochlora margarita*	TX/SOC	--	Rivers, streams, forest seepages, larval habitat unknown.
Long-leaved Wild-buckwheat	*Eriogonum longifolium*	--	PS	Sandy soil mainly on the edges of pine and oak woodlands, calcareous clay or sandy soils, limestone glades and exposed edges of limestone bluffs, dry sandy pinelands and scrub.

Texas Golden Gladecress	*Leavenworthia texana*	--	C	Herbaceous communities in vernally wet glades with shallow, calcareous soils on Weches Formation ironstone outcrops.
Earth-fruit	*Geocarpon minimum*	TX/T	TS	Alkaline prairie around the margins of bare soil "slicks", or in extreme areas with a thin grass canopy.
Small-flowered Flame-Flower	*Talinum parviflorum*	LA/S3		Mostly found on sandy soils near rocks and seems to be little used by livestock (USGS 2006).
American Alumroot	*Heuchera americana*	LA/S2		Dry, upland woods and rocky hillsides (NCSU 2008).
Silver Croton	*Croton argyranthemus*	LA/S2		Open woodlands (TNC 2003).
Upland Swamp Privet	*Forestiera ligustrina*	LA/S3		Woods near/on rocky slopes and along streams, in barrens and glades (KSNPC 2006).
Compact Prairie-clover	*Dalea compacta var. pubescens*	LA/S1		Grasslands on dry rocky limestone or chalk slopes (NPST 2004).
Riddell's Spikemoss	*Selaginella arenicola ssp. riddellii*	LA/S3		Occurs in xeric habitats such as sandstone glades and in deep dry sands.
Long-sepaled False Dragon-head	*Ohysostegia longisepala*	TX/SOC	--	Ditches, marshes, transitional zone between coastal prairie and mesic hardwood-pine flatwood forest.
Texas Screwstem	*Bartonia texana*	TX/SOC	--	Along wooded streams, bogs, creek bottoms in swampy tupelo forests and bay-gall thickets.
Regional Forester's Sensitive Species				
Bachman's Sparrow	*Aimophila aestivalis*	--	RS	Habitat specialist, open pine woods with shrubs for nesting.
Sabine Shiner	*Notropis sabinae*	--	RS	Runs and pools in small to moderate sized streams with fine, silt-free sediments.
Sabine Fencing Crayfish	*Faxonella beyeri*	--	RS	Temporary pools, impoundments, and roadside ditches that are intermittently filled
Blackbelted Crayfish	*Procambarus nigrocinctus*	--	RS	Rocky/debris habitat in small moderately flowing creeks.
Texas Pigtoe	*Fusconaia askewi*	--	RS	Protected areas of large rivers with a mixture of substrates.

Triangle Pigtoe	*Fusconaia lananensis*	--	RS	Rivers and creeks with moderate current.
Sandbank Pocketbook	*Lampsilis satura*	--	RS	Small to large rivers with moderate flow and sand/gravel substrate
Southern Hickorynut	*Obovaria jacksoniana*	--	RS	Small to large rivers with low to moderate current and medium sized gravel substrate.
Louisiana Pigtoe	*Plerobema reddelli*	--	RS	Streams and moderate sized rivers in flowing water in a mixture of substrates.
Texas Heelsplitter	*Potamilus amphichaenus*	--	RS	Medium to large rivers in flowing water over mud and sand substrates, could occur in impoundments
Incised Groovebur	*Agrimonia incisa*	--	RS	Sandy, longleaf pine-oak communities.
Panicled Indigobush	*Amorpha paniculata*	--	RS	Deep acid woodlands and bogs within the Catahoula Formation.
Mohlenbrock's Umbrella Sedge	*Cyperus grayoides*	--	RS	Deep, xeric sandy soils in open areas.
Pineland Bog Button	*Lachnocaulon digynum*	--	RS	Wetland pine savannah and bogs with little to no shrub or tree cover.
Slender Grayfeather	*Liatris tenuis*	--	RS	Sandy, dry upland longleaf pine sites maintained by fire.
Yellow Fringeless Orchid	*Plantanthera integra*	--	RS	Wetland pine savannahs and bogs.
Large Beakrush	*Rhynchospora macra*	--	FS	Wetland pine savannahs and bogs.
Sabine (Bog) Coneflower	*Rudbeckia scabrifolia*	--	RS	Wetland pine savannahs and bogs.
Louisiana Catchfly	*Silene subciliata*	--	RS	Sandy (not xeric), dry, mesic mixed pine-hardwood forests.
Texas Trillium	*Trillium pusillum* var. *texanum*	--	FS	Riparian and baygall wet edges, low boggy hardwood bottoms.
Drummond's Yellow-eyed Grass	*Xyris drummondii*	--	RS	Wetland pine savannahs and bogs.

Louisiana Yellow-eyed Grass	*Xyris louisianica*	--	RS	Lower edges of hillside seepage slopes and wet claypan pine savannahs.
Rough-leaf Yellow-eyed Grass	*Xyris scabrifolia*	--	RS	Wetland pine savannahs and bogs.

TPWD also provided information on several sensitive natural communities including:

- Colonial Waterbird Rookeries
- Migratory Songbird Fallout Site
- American Beech-White Oak Series
- American Beech-Southern Magnolia Series
- Loblolly Pine-White Oak-Southern Red Oak Series
- Longleaf Pine-Little Bluestem Series
- Marshhay Cordgrass Series
- Rush-Sedge Series
- Smooth Cordgrass Series
- Sphagnum-Beakrush Series
- Sweetbay Magnolia Series
- Swamp Chestnut Oak-Willow Oak Series
- Water Oak-Willow Oak Series

State Status

Endangered = Taking or harassment of these species is a violation of state and federal laws.

Threatened = Taking or harassment of these species is a violation of state and federal laws.

Threatened/Endangered = Taking or harassment of these species is a violation of state and federal laws.

SOC - Species of Concern = Taking or harassment of these species is not a violation of state and federal laws.

Prohibited = Possession of these species is prohibited. No legal harvest or possession.

Restricted Harvest = There are restrictions regarding the taking and possession of these species.

S1 = critically imperiled in Louisiana because of extreme rarity (5 or fewer known extant populations) or because of some factor(s) making it especially vulnerable to extirpation

S2 = imperiled in Louisiana because of rarity (6 to 20 known extant populations) or because of some factor(s) making it very vulnerable to extirpation

S3 = rare and local throughout the state or found locally (even abundantly at some of its locations) in a restricted region of the state, or because of other factors making it vulnerable to extirpation (21 to 100 known extant populations)

Federal Status

LE = Listed Endangered

LT = Listed Threatened

PE = Proposed endangered

PT = Proposed Threatened

C = Candidate

DL = Delisted

T (S/A) = Listed endangered or threatened because of similarity of appearance

PS (partial status) = Status in only a portion of the species' range. Typically indicated in a "full" species record where an intra-specific taxon or population has U.S. ESA status, but the entire species does not. The species does not have a status in Louisiana.

Regional Forester's Sensitive Species

RS=Regional Forester's Sensitive Species (Region 8)

FS=NFGT Sensitive Species

Section 4(e) of the Federal Power Act (FPA) requires FERC to give equal consideration to development and non-development uses of the waterway on which a project is located, and what conditions should be placed on any license that may be issued. In making a decision, FERC must equally consider the environmental, recreational, fish and wildlife, and other non-development values of the Project, as well as power and developmental values. Under Section 10(a) of the FPA, license issued shall be best adapted to a comprehensive plan for improving or developing a waterway for beneficial public uses.

Special-status species are of particular interest because of their rarity and/or ecological functions. Ensuring that environmental measures pertaining to these resources are considered in a reasonable way is relevant to FERC's public interest determination. Additionally, this information is needed to ensure compliance with the Endangered Species Act (ESA) and consistently with comprehensive plans and species guidelines (e.g., National Bald Eagle Management Guidelines).

FERC stated in its January 21, 2009 Request for Modification of Studies, Additional Information, and Study Requests, that the Authorities provide specific information on the location of special-status species and their habitat in relation to the Project facilities, operation, and maintenance. This information would determine the need to modify Project operations or land management to benefit special-status species.

Furthermore, the FERC in their June 8, 2009 Comments on Proposed Study Plans, requested that the schedule should include a milestone for filing with the FERC findings regarding the need for site-specific surveys and/or habitat assessments including the results of agency consultation. They also requested that if studies are proposed, the filing should include detailed methodologies.

5.0 PROJECT NEXUS

Continued Project O&M within and adjacent to the Project Boundary could adversely affect federal and state-listed threatened or endangered species through direct loss of species and

habitat, species disturbance, or habitat alteration. Adverse Project O&M effects on listed and special status species can drive what species/habitat specific surveys may be needed, based on agency consultation (see Section 7.0-Schedule). In general, adverse O&M effects on listed/special status species could include the following:

- Adverse effects to aquatic resource (e.g., fish, mussel, crayfish) community composition and abundance due to reservoir fluctuations
- Adverse effects to the quality and quantity of aquatic resource spawning and rearing habitat due to reservoir fluctuations and operational changes
- Reduction in aquatic resource access to tributaries and upstream available habitat
- Adverse effects of noxious and invasive plant species (terrestrial and aquatic) including competition and loss of habitat
- Alteration and/or loss in terrestrial and riparian habitats due to shoreline erosion (e.g., rare plant habitats, wildlife corridors)
- Adverse effects to nesting and foraging habitat due to maintenance activities including habitat loss by timber clearing and construction, noise, recreational, and human intrusion (e.g., bald eagle nests, red-cockaded woodpecker foraging areas)

If adverse effects on threatened, endangered, and special-status species are identified, environmental measures may be developed to reduce or eliminate these effects. Potential measures could form the basis for any license articles that may be issued by FERC.

6.0 METHODOLOGY

6.1 Literature and Data Review

Prior to any field surveys, the Authorities will refine as necessary its list of special-status species based on literature and database reviews and consultation with knowledgeable agency, tribal, and other biologists; habitat preferences and ranges of the species; and availability of suitable habitat to support the species based on habitat mapping and/or aerial photographs. Information and data review will also include review of pertinent species-specific management plans such as the East Texas Black Bear Conservation and Management Plan 2005-2015 (TPWD 2005).

6.2 Habitat Mapping

The abundance, distribution, and habitat preferences of all special-status species will be documented and the known locations of special-status species and their potential habitat will be indicated on maps showing the relationship to areas in the vicinity of Project facilities, areas affected by hydrological changes resulting from Project operations, lands within and adjacent to the Project Boundary, areas exposed to recreational use and other human disturbances, and maintenance activities (road maintenance, vegetation management, weed control, etc.). This information will also include recent surveys conducted by other agencies (e.g., USFS's Bald Eagle and Red-cockaded Woodpecker surveys).

Where pertinent (e.g., rare plant species), the maps will include other resource layers including soil types, geology, shoreline erosion sites, and vegetation covertypes. Little species-specific location (i.e., point data) and/or habitat information is known for several species and habitat maps may be of a general nature. The maps will also show the area surveyed if surveys are conducted (see Section 6.3 below).

6.3 Field Surveys

Upon conclusion of the literature search and habitat mapping tasks (January 2010), the Authorities will file a report with the FERC and pertinent agencies such as the USFWS, USFS, TPWD, and LDWF, documenting the results of this effort and the need for any site-specific surveys or habitat assessments. If surveys are necessary, this report will include detailed survey methodologies.

Based on the results of habitat mapping and the location of Project-related effects, the Authorities, after consultation with the USFWS, USFS, TPWD, LDWF, the Tribes, and the FERC, will define the need for species-specific field surveys or habitat assessments for special-status species. Where species-specific habitat information is lacking in suitable areas and/or it appears that a species and habitat may be adversely affected by Project operations or maintenance, field surveys can be required.

Surveys will cover the appropriate species and habitats within the zone of operational influence during the appropriate seasons or as narrowed as a result of agency and tribal consultation. Multiple surveys may be necessary if special-status species are found to be adversely affected by the Project. The survey and habitat assessment protocols will follow accepted plant and wildlife species guidelines and protocols appropriate for the target species (e.g., appropriate methodologies and seasonal timing).

6.4 Data Analysis and Reporting

The Authorities will prepare a draft report that includes the results of the mapping efforts and any surveys and habitat assessments and identifies, describes, and assesses the extent to which Project-related actions and activities may affect special-status terrestrial species and their habitat. The report will include a description of the study objectives, study area, methods, analysis, results, discussion, and findings. The report will also include a discussion of consistency with species management plans and any specific measures and implementation plans needed to protect special-status species.

For example, the Authorities will include a determination of consistency with National Bald Eagle Management Guidelines (May 2007) developed by U.S. Fish and Wildlife Service to help landowners avoid violating the Bald and Golden Eagle Protection Act. The guidelines recommend, among other things, buffer zones of up to 660 feet to protect nesting eagles. For each identified nest site, the report will describe the amount of Project lands and types of habitat that are located within the 660-foot-wide buffer zone around each nest.

The report will also provide a description and timing of Project-related activities, including maintenance activities, recreation facilities, and recreation use that would be expected to occur within the buffer zones and whether these activities would be visible from the nests. In addition, the report will describe any potential inconsistencies with the guidelines. The Authorities will also determine consistency with other federal and state rare species management guidelines and/or plans.

The draft report will document the dates and times of any surveys, describe the methods used, and any variation from approved survey protocols and provide a brief description of the habitats or community types present and a list of representative species. Completed data forms and maps showing the area surveyed, the location of the species, and proximity to Project activities, and photographs of the habitat. A comprehensive list of all wildlife species observed and identified during surveys will also be provided.

For target wildlife species detected, the report will include numbers of individuals, area of occupied habitat, habitat description, sex, age, activity, condition, and threats to the population. A brief description of each species will be included that will address habitat requirements, known distribution within the study area, and habitat use.

For target plant species detected, the report will include numbers of individuals, area of occupied habitat, habitat description, phenology, condition, and threats to the population. A brief description of each species will be included that will address habitat requirements and known distribution within the study area.

Rationale will be provided if it is determined that no potential habitat is present (for example, elevation is too low, lack of specific vegetation communities). The methods described above are consistent with generally accepted methods for conducting wildlife and plant surveys and follow the generally accepted special-status species survey techniques used by federal and state agencies (i.e., Texas and Louisiana).

An initial and updated/final technical report on the results of the literature review, field reconnaissance, and recommendations will be prepared for this study and will include the following elements:

- Project Introduction and Background
- Study Area
- Methodology
- Discussion and Analysis
- Results (including discussions of Project effects and recommendations)

- Location maps, GIS analysis and photos
- Any agency correspondence and or consultation
- Literature Citations

The initial and updated/final reports will be submitted to the following agencies:

- FERC
- USFWS
- USFS
- TPWD
- LDWF

7.0 SCHEDULE

The preliminary schedule or the conduct of this Study is outlined below:

1. FERC issues the Study Plan Determination: August 7, 2009
2. Study Planning and Data Review Commences: August 10, 2009
3. File Literature and Species/Habitat Mapping Report (including species specific survey needs): January 18, 2010
4. Terrestrial Resource Working Group Meeting to Discuss Species/Habitat Mapping Report, Potential Project Affects and the Need For Surveys: February 12, 2010 (tentative)
5. File Species/Habitat Mapping Report and Survey Plan with FERC (Authorities): February 24, 2010
6. Field Data Collection Commences, if necessary: March 15, 2010
7. Field Data Collection Ends, if necessary: September 15, 2010
8. File Initial Study Report (Authorities): October 30, 2010
9. Initial Study Report Meeting (Authorities and Stakeholders): November 15, 2010
10. File Study Report Meeting Summary (Authorities): November 30, 2010
11. File Meeting Summary Comments (Authorities): December 30, 2010
12. File Response to Meeting Summary Comments (Stakeholders): January 28, 2011
13. Study Plan Resolution/Amendments by FERC: February 28, 2011

8.0 BUDGET

This study would likely take one study season to complete unless specific species field surveys are required. The estimated budget for the study is approximately $75,000. This cost does not include any required field surveys.

9.0 DISCUSSION OF ALTERNATIVE APPROACHES

The proposed methods for this study are consistent with professional and scientific practices. The overall approach is commonly used in relicensing proceedings, is consistent with generally accepted methods for conducting wildlife and botanical surveys, and follows the generally accepted special-status species survey techniques used by pertinent federal and state agencies. In addition, the proposal methods for this study are consistent with FERC study requirements under the ILP. No alternative approaches to this study are necessary.

10.0 REFERENCES

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